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Something's Fishy: Combatting Seafood Fraud and Mislabeling in South Carolina

Abigail A. Carson

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**SOMETHING’S FISHY: COMBATTING SEAFOOD FRAUD AND MISLABELING
IN SOUTH CAROLINA**

Abigail A. Carson *

I. INTRODUCTION..... 974

II. BACKGROUND 977

A. The Evolution of Seafood Fraud 977

III. CONSEQUENCES OF SEAFOOD FRAUD 981

A. Industry, Government, and Consumer Economic Losses..... 981

B. Environmental Harm 982

C. Undermining Food Safety 982

IV. FRAUDULENT AND DECEPTIVE PRACTICES DECEIVING SEAFOOD
CONSUMERS 983

A. Fraud in the Supply Chain & Species Substitution 983

B. Eco-Labels 984

C. FDA Approved Nicknames..... 985

D. Transshipping and Mislabeling to Avoid Customs Duties 987

E. Short-weighting, Undercounting, and Over-treating..... 988

F. Altered Color 988

G. Farm-raised Fish Labeled as Wild-caught 989

H. Country of Origin Labeling (COOL) 990

V. TRACEABILITY 990

VI. FEDERAL LAWS AND AGENCY AUTHORITY OVER SEAFOOD 992

*A. Federal Food, Drug and Cosmetics Act of 1938 (FFDCA) &
 Fair Packaging and Labeling Act (FPLA)*..... 992

B. Food and Drug Administration (FDA) 993

C. Customs and Border Protection (CBP) 994

D. Federal Trade Commission (FTC)..... 995

E. National Oceanic and Atmospheric Administration (NOAA) 995

*F. Agriculture Marketing Services of the United States
 Department of Agriculture (USDA)* 996

G. The Lacey Act Amendments of 1981 996

H. Proposed Federal Bills 998

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I. <i>Presidential Task Force on Illegal, Unreported, and Unregulated (IUU) Fishing and Seafood Fraud, Co-Chaired by the Departments of Commerce and State</i>	998
VII. SOUTH CAROLINA LAWS AND REGULATIONS ON SEAFOOD FRAUD	999
A. <i>Mislabeling and Adulteration: South Carolina Food and Cosmetic Act (SCFCA)</i>	999
B. <i>Uniform Weights and Measures Law: SCFCA</i>	1001
C. <i>Shellfish & Crabmeat: Department of Health and Environmental Control (DHEC)</i>	1001
D. <i>South Carolina Marine Resources Act of 2000 (SCMRA): SCDNR</i>	1002
E. <i>Aquaculture</i>	1005
F. <i>Proposed South Carolina Bills</i>	1005
VIII. MASSACHUSETTS' LAWS AND REGULATIONS ON SEAFOOD FRAUD	1006
IX. PROPOSED CHANGES TO COMBAT SEAFOOD FRAUD ON THE FEDERAL AND STATE LEVEL.....	1008
A. <i>Improving Traceability</i>	1009
B. <i>Standardized Labeling with Scientific and Market Names</i>	1010
C. <i>Increased Penalties in South Carolina</i>	1011
D. <i>Information Production & Dissemination in South Carolina</i>	1012
E. <i>Law Enforcement Education</i>	1012
F. <i>Universal Uniform Moisture Guidelines & CO/TS Testing</i>	1013
G. <i>Increased Effort to Enforce the Lacey Act</i>	1013
X. CONCLUSION	1013
I. INTRODUCTION	

Paul and Mary are regular patrons at a local seafood restaurant in Charleston, South Carolina. Enjoying Sunday lunch, Mary orders the wild-grouper while Paul orders the local black sea bass. Unknowingly, both Paul and Mary have fallen victim to seafood fraud. Mary's pricey wild-grouper was actually farm-raised tilefish, averaging three times the mercury as

grouper¹ with increased levels of antibiotics from aquaculture pens.² Paul's local black sea bass was actually a cheaper imported escolar whose oil will cause Paul to suffer from severe gastrointestinal problems later that afternoon.³

Consumers, like Paul and Mary, often make the false assumption that seafood from restaurants and/or supermarkets is adequately regulated to ensure accurate pricing, labeling, and species identification. Often, consumers are duped by seafood fraud, the misrepresentation, substitution, or mislabeling of seafood products for financial gain.⁴ Seafood fraud takes numerous forms including: substituting a different, often lower priced species for a higher priced seafood species (species substitution); falsifying or absence of origin information; shipping products through an intermediary country to avoid antidumping and countervailing duties (transshipping); selling less seafood weight than was indicated on the label or reporting inaccurate meat weights by adding water or ice to the seafood to increase its weight (short-weighting); and over-glazing to hide the species identity or increase weight.⁵ Furthermore, while not prohibited, the use of generalized FDA approved market names, instead of scientific names, and the practice of using carbon monoxide/tasteless smoke should be examined for their potential to mislead consumers.⁶

1. Benjamin Friedman, *Mystery Fish*, CONSUMER REP. (Dec. 2011), <http://www.consumerreports.org/cro/magazine-archive/2011/december/food/fake-fish/overview/index.htm>.

2. Margot L. Stiles et al., *Oceana, Bait and Switch: How Seafood Fraud Hurts Our Oceans, Our Wallets and Our Health* 19 (2011), http://oceana.org/sites/default/files/reports/Bait_and_Switch_report_2011.pdf (citing R.A. Hites et al., *Global Assessment of Organic Contaminants in Farmed Salmon*, SCIENCE (2004), 303:226-229; R.A. Hites et al., *Global Assessment of Polybrominated Diphenyl Ethers in Farmed and Wild Salmon*, ENVTL. SCIENCE AND TECH. (2004), 38:4945-4949; J.A. Foran et al., *Risk-Based Consumption Advice for Farmed Atlantic and Wild Pacific Salmon Contaminated with Dioxins and Dioxin-Like Compounds*, ENVTL. HEALTH PERSPECTIVES (2005) 113:552-556).

3. See, e.g., Rachel E. Golden & Kimberly Warner, *Oceana, The Global Reach of Seafood Fraud: A Current Review of the Literature* 4 (2014), http://usa.oceana.org/sites/default/files/seafood_fraud_map_white_paper_new_0.pdf.

4. See *id.*; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-258, SEAFOOD FRAUD: FDA PROGRAM CHANGES AND BETTER COLLABORATION AMONG KEY FEDERAL AGENCIES COULD IMPROVE DETECTION AND PREVENTION 1 (2009) [hereinafter GAO-09-258].

5. See Golden & Warner, *supra* note 3, at 1; GAO-09-258, *supra* note 4, at 1; HAROLD F. UPTON, CONG. RESEARCH SERV., RL34124, SEAFOOD FRAUD 1 (2015), <http://nationalaglawcenter.org/wp-content/uploads/assets/crs/RL34124.pdf> [hereinafter CRS SEAFOOD FRAUD REPORT] (citing NOAA, FishWatch: U.S. Seafood Facts, "Identifying Seafood Fraud: A Common Practice with Serious Consequences", http://www.fishwatch.gov/buying_seafood/identifying_seafood_fraud.htm. (last visited Apr. 17, 2017)).

6. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 12.

Although over 90% of seafood consumed in the United States is imported,⁷ only 2% of that seafood is inspected for fraud.⁸ Of the 2% tested, on average, fraud was detected in 30% of tested samples.⁹ With over 1700 species of seafood available for sale in the United States, it is not surprising that the average consumer is ill-equipped to identify these discrepancies.¹⁰ Coupled with the fact that the seafood product likely passed through numerous hands and underwent processing before landing on your plate, it can be near impossible to determine at what point in the seafood supply chain the fraud occurred.¹¹

Seafood fraud will continue to persist with the average American eating 14.5 pounds of fish and shellfish in 2013¹² and the continued increase in the seafood consumer price index.¹³ Seafood fraud has negative implications on human health, ocean conservation, consumer's wallets, and industry revenues. Port cities like Charleston, where commercial fishing contributes significantly to the state and cities economy,¹⁴ are especially vulnerable to seafood fraud negatively impacting the state's economy.¹⁵ Due to the current and potential implications of seafood fraud in South Carolina, this Note explores current state and federal initiatives to combat seafood fraud, specifically focusing on proposed changes and possible improvements to better protect South Carolina from seafood fraud.¹⁶

This Note argues that the current federal and state legislation governing seafood fraud and mislabeling is inadequate, requiring increased agency

7. NOAA FISHERIES, FISHERIES OF THE UNITED STATES, 2013: A STATISTICAL SNAPSHOT OF 2013 FISH LANDINGS 4 (2014), https://www.st.nmfs.noaa.gov/Assets/commercial/fus/fus13/materials/FUS2013_FactSheet_FINAL.pdf [hereinafter NOAA SNAPSHOT 2013].

8. GAO-09-258, *supra* note 4, at 5.

9. *Oceana Study Reveals Seafood Fraud Nationwide*, OCEANA (2016), http://oceana.org/sites/default/files/National_Seafood_Fraud_Testing_Results_Highlights_FINAL.pdf [hereinafter Oceana 2014 Report Summary].

10. Stiles et al., *supra* note 2, at 3.

11. Friedman, *supra* note 1.

12. NOAA SNAPSHOT 2013, *supra* note 7, at 3.

13. Stiles et al., *supra* note 2, at 3.

14. See NOAA FISHERIES, U.S. DEP'T OF COMMERCE, FISHERIES ECONOMICS OF THE UNITED STATES, 2012 6, 96-99, 111-13 (NOAA Tech. Memorandum NMFS-F/SPO-137, 2014), <https://www.st.nmfs.noaa.gov/Assets/economics/documents/feus/2012/FEUS2012.pdf> [hereinafter NOAA TECH. MEMO. 2012] (stating jobs and revenue are supported and generated by the U.S. Seafood Industry in South Carolina in 2012).

15. See generally Alanna Raskin et al., Proposal for the Seafood Awareness Safeguard Tackling Seafood Fraud in Boston (Spring 2014), https://bu.digicitation.com/cgs_team_v_spring14/Final_Product (unpublished capstone project, Boston University) (examining the implications of seafood fraud on port cities like Boston).

16. See *infra* Part II.

efforts to detect seafood fraud violations, the expansion of traceability standards, and the creation of a uniform seafood labeling system incorporating both the species' scientific and market name.¹⁷ Part II of this Note explores what seafood fraud is and includes a historical overview of the issue on a national and state level.¹⁸ Part III explains the conservation, economic, and health risk implications of seafood fraud.¹⁹ Part IV details the various fraudulent and deceptive practices utilized to deceive seafood consumers.²⁰ Part V summarizes federal legislation and the agencies charged with combatting seafood fraud and the inadequacies and shortcomings of the current structure.²¹ Part VI synthesizes South Carolina legislation and regulations for regulating seafood fraud and its inadequacies. Part VII examines the legislation and regulations of Massachusetts, one of the states on the forefront of detecting and combatting seafood fraud and compares it to South Carolina.²² Finally, Part VIII examines proposed changes to the current system and potential further suggestions designed to help South Carolina better combat seafood fraud and mislabeling.

II. BACKGROUND

A. *The Evolution of Seafood Fraud*

As capture fisheries peaked in the 1980s, international seafood trade did as well,²³ intensifying both intentional and unintentional acts of seafood fraud.²⁴ As early as the 1930s, there were reports of canned mackerel being mislabeled as salmon.²⁵ Government testing, conducted by the National

17. See *infra* Part III.

18. See *infra* Part IV.

19. See *infra* Part V.

20. See *infra* Part VI.

21. See *infra* Part VII.

22. See *infra* Part VIII.

23. Jennifer L. Jacquet & Daniel Pauly, *Trade Secrets: Renaming and Mislabeling of Seafood*, 32 MARINE POL'Y 309, 309 (2008).

24. Stiles et al., *supra* note 2, at 10 (citing M. Espineira et al., *Authentication of Anglerfish Species (Lophius spp) by Means of Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (PCR-RFLP) and Forensically Informative Nucleotide Sequencing (FINS) Methodologies*, J. OF AGRICULTURAL AND FOOD CHEMISTRY (2008), 56:10594-10599).

25. Jacquet & Pauly, *supra* note 23, at 310 (citing A. Kallet & F. J. Schlink, 100,000,000 GUINEA PIGS: DANGERS IN EVERYDAY FOOD, DRUGS, AND COSMETICS (1933)).

Seafood Inspection Laboratory from 1988-1997, found that 37% of fish and 13% of shellfish and other seafood was mislabeled.²⁶

In more recent years, the non-profit organization Oceana²⁷ conducted one of the largest investigations of seafood fraud from 2010-2012.²⁸ The study found that one-third of the samples analyzed using DNA testing were mislabeled according to the FDA Seafood Name List.²⁹ The study repeatedly found the highest rates of fraud in snapper, grouper, cod, and Chilean seabass.³⁰ Additionally, the study found a pattern of fraud rates highest in retail sushi establishments followed by restaurants, and then grocery stores.³¹

Although reports of seafood fraud have been widely reported and gained greater attention in recent years,³² often, enforcement efforts do not reflect a great deal of concern.³³ Generally, federal and state legislation concerning seafood fraud and mislabeling is not seafood specific but rather governs all human consumption commodities.³⁴

On the federal level, a number of different federal agencies are tasked with combating seafood mislabeling. The primary federal law governing seafood fraud is the Federal Food, Drug, and Cosmetic Act of 1938 (FFDCA).³⁵ The FFDCA provides the FDA with the primary responsibility of ensuring that domestic and imported foods, including seafood, are not misbranded or adulterated, labeled properly, and are safe, wholesome, and sanitary.³⁶ The Fair Packaging and Labeling Act (FPLA) further grants the FDA authority to ensure labels are adequate.³⁷ The Federal Trade Commission (FTC), under the Federal Trade Commission Act (FTCA), regulates the false advertising of seafood products.³⁸ The United States

26. *Id.* (citing J. M. Tennyson, K. S. Winters & K. Powell, *A Fish By any Other Name: A Report on Species Substitution*, National Marine Fisheries Service, National Seafood Inspection Laboratory (Oct. 6–7, 1997)).

27. *What We Do*, OCEANA.ORG, <http://oceana.org/what-we-do> (last visited Jan. 4, 2016) (“Oceana, founded in 2001, is the largest international organization focused solely on ocean conservation”).

28. Oceana 2014 Report Summary, *supra* note 9 (collecting more than 1,200 seafood samples from 647 retail outlets in 21 states to determine if they were honestly labeled).

29. *Id.*

30. *Id.*

31. *Id.*

32. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at summary.

33. Jacquet & Pauly, *supra* note 23, at 310.

34. Alanna Raskin et al., *supra* note 15.

35. 21 U.S.C. §§ 301–399(f) (2012 & Supp. I 2013).

36. *See id.* (delegating the FDA’s responsibility in monitoring for seafood safety and mislabeling); CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 3.

37. 15 U.S.C. § 1453(a) (2012).

38. Stiles et al., *supra* note 2, at 30.

Department of Agriculture (USDA) regulates the country of origin labeling (COOL) requirements for seafood, under the Agricultural Marketing Act of 1946 and the Tariff Act of 1930.³⁹ Further, the regulation and policing of imported seafood is controlled by the FDA and the United States Customs and Border Protection (CBP).⁴⁰

In South Carolina, the South Carolina Food and Cosmetic Act (SCFCA)⁴¹ has adopted the regulations and amendments of the FFDCA with regard to fish and fishery products⁴² as well as the FPLA.⁴³ SCFCA provides the South Carolina Department of Agriculture with the authority to regulate the adulteration, misbranding, and labeling of seafood.⁴⁴ Under the South Carolina Marine Resources Act of 2000 (SCMRA),⁴⁵ the South Carolina Department of Natural Resources (SCDNR) is given authority to regulate the buying and selling of whole and unprocessed fish and seafood and the licensing for commercial fishermen.⁴⁶ Furthermore, the Department of Health and Environmental Control (DHEC) regulates the transportation and handling of seafood for retail food establishments.⁴⁷ Overall, South Carolina's laws and regulations leave the state ill-equipped to combat seafood fraud.

In 2007, commercial fishermen in South Carolina brought in around \$26.824 million worth of seafood from landings⁴⁸ and aquaculture⁴⁹

39. *Id.*

40. *Id.*

41. S.C. CODE ANN. §§ 39-25-10 to 210 (1985 & Supp. 2014).

42. S.C. CODE ANN. § 39-25-180(K) (Supp. 2014) (“[r]egulations and their amendments adopted with regard to fish and fishery products pursuant to the authority of the federal Food, Drug, and Cosmetic Act are the fish and fishery products regulations of this State. However, the commissioner may adopt a regulation that prescribes conditions under which fish and fishery products may be used in this State whether or not in accordance with regulations promulgated pursuant to the federal act.”).

43. S.C. CODE ANN. § 39-25-180(G) (Supp. 2014) (“[r]egulations and their amendments now or hereafter adopted pursuant to the Fair Packaging and Labeling Act are the regulations of this State. However, the commissioner may, if he finds it necessary in the interest of consumers, prescribe packaging and labeling regulations for consumer commodities, whether or not in accordance with regulations promulgated pursuant to the federal act; provided, that no regulation may be promulgated that is contrary to the labeling requirements for the net quantity of contents required pursuant to Section 4 of the Fair Packaging and Labeling Act and the regulations promulgated pursuant to it.”).

44. *See* S.C. CODE ANN. § 39-25-180 (Supp. 2014).

45. South Carolina Marine Resources Act of 2000, S.C. CODE ANN. §§ 50-5-10 to 2740 (2008 & Supp. 2014) [hereinafter SCMRA].

46. S.C. CODE ANN. § 50-5-20(A) (2008).

47. S.C. CODE ANN. REGS. 61-25 (2011).

48. S.C. CODE ANN. § 50-5-15 (Supp. 2014) (defining “Landed” or “to land” as “tak[ing] and retain[ing] possession while afloat or to take and bring ashore”).

operations.⁵⁰ The state is widely known for its shrimp, blue crab, swordfish, and wreckfish.⁵¹ Thus, ongoing crab fraud on the Mid-Atlantic coast should be of particular concern for South Carolina's seafood industry.⁵² Distributors have been importing foreign crabmeat, repackaging it, and selling it as the more expensive Mid-Atlantic crab.⁵³ This could have severe implications on South Carolina's economy and create consumer distrust in the state's industry.⁵⁴

In addressing seafood fraud, advocates have pushed for greater coordination among federal agencies, increased enforcement efforts targeting seafood fraud, and increased penalties for committing seafood fraud. The greatest divide in the debate has been over whether federal agencies should enforce existing laws or whether Congress should pass new legislation to combat seafood fraud. In response to this issue, President Obama released a presidential memorandum on June 17, 2014, calling executive departments and agencies to combat seafood fraud by "strengthening coordination and using existing authorities."⁵⁵

The 113th Congress introduced two Bills to improve seafood safety and prevent seafood fraud.⁵⁶ However, no actions were taken on either Bill and no similar Bills have been introduced in the 114th Congress.⁵⁷ South Carolina's Congress proposed a Bill to amend state legislation redefining the terms "food", "seafood", and "local" to prevent seafood from knowingly

49. S.C. CODE ANN. § 50-18-210 (2008) (defining "Aquaculture" as a "controlled cultivation of an aquatic species in confinement").

50. Mark S. Henry, Raymond J. Rhodes & Daniel Eades, *The Flow of South Carolina Harvested Seafood Products through South Carolina Markets*, UCED RES. REP. 09-2008-03 9 (2008), <http://ageconsearch.umn.edu/bitstream/112799/2/seafood.pdf>.

51. Jessica Mozo, *A Fisherman's Life for Me*, FARMFLAVOR.COM, <http://www.farmflavor.com/us-ag/south-carolina/animals-and-livestock-south-carolina/a-fishermans-life-for-me/> (last visited Jan. 4, 2016).

52. See generally Catherine Rentz, *U.S. Enforcement Changes Raise Concern Over Seafood Fraud*, BALTIMORE SUN (Dec. 11, 2014, 10:32 AM), <http://www.baltimoresun.com/news/maryland/sun-investigates/bs-md-fish-enforcement-reaction-20141210-story.html> (finding seafood fraud on the Mid-Atlantic coast).

53. *Id.*

54. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 1.

55. See *id.* at 16–17 (referencing Press Release, NOAA, White House, Office of the Press Secretary, Presidential Memorandum—Comprehensive Framework to Combat Illegal, Unreported, and Unregulated Fishing and Seafood Fraud (June 17, 2014), <https://www.whitehouse.gov/the-press-office/2014/06/17/presidential-memorandum-comprehensive-framework-combat-illegal-unreported> [hereinafter Presidential Memorandum]).

56. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 2 (referencing H.R. 1012, 113th Cong. (2013) and S. 520 113th Cong. (2013)).

57. *Id.*

being misrepresented.⁵⁸ Similarly, no further action was taken on this Bill in South Carolina.

III. CONSEQUENCES OF SEAFOOD FRAUD

A. Industry, Government, and Consumer Economic Losses

Studies have found profit to be the primary motivator behind seafood fraud.⁵⁹ “Rather than pay high prices, distributors, retailers, and restaurants often buy fish of lesser value, illegally sell these fish as their higher value relatives, and accrue the windfall profits. The consumer, meanwhile, loses.”⁶⁰ For instance, 45,000 pounds of oreo dory labeled as orange roughy was seized after importation to the United States from New Zealand.⁶¹ Orange roughy, at the time, was being sold for six dollars per pound while oreo dory was being sold for two dollars per pound.⁶² The estimated unfair profit would have been around \$150,000, which would have been reflected in increased consumer prices.⁶³

In addition, the seafood industry takes a hit when consumers’ confidence in the industry is undermined, in turn, lowering demand for seafood products.⁶⁴ This is troublesome because “a decrease in demand would result in lower [seafood] prices and losses in revenue to law-abiding businesses.”⁶⁵ Furthermore, law-abiding seafood businesses must compete with those businesses selling fraudulent products, putting pricing pressure on legitimate, high-quality products and resulting in economic losses.⁶⁶ Moreover, governments take a financial hit when vessels use transshipping as a means to avoid paying anti-dumping duties,⁶⁷ as discussed in Part IV.

58. H. 3987, 2013–14 Gen. Assemb., 120th Sess. (S.C. 2013).

59. Golden & Warner, *supra* note 3, at 4.

60. Jacquet & Pauly, *supra* note 23, at 314.

61. *Id.*

62. Judith E. Foulke, *Is Something Fishy Going On? Intentional Mislabeling of Fish*, FDA CONSUMER (Sept. 1993), <https://www.highbeam.com/doc/1G1-14397937.html>.

63. *Id.*

64. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 15.

65. *Id.*

66. *Id.*

67. See, e.g., Press Release, NOAA, Seafood Importer and Associated Corporations Receive Imprisonment and Fines (Jan. 8, 2007), <http://www.publicaffairs.noaa.gov/releases2007/jan07/noaa07-r101.html>.

B. *Environmental Harm*

Seafood fraud and mislabeling negatively impacts the ocean and undermines conservation efforts to prevent overfishing.⁶⁸ The mislabeling of a species can lead to consumers unknowingly consuming a threatened or depleted species. A study in New Zealand found that 40% of two-hundred shark fillets tested were not the more abundant lemon shark, as they were labeled, but were shark species illegal to harvest.⁶⁹ This practice undermines consumer initiatives to make environmentally conscious choices. For market driven conservation efforts to be effective, consumers have to be able to make informed decisions on what species to eat.⁷⁰ Seafood fraud can deceive consumers by influencing their perception of the actual state of a species' abundance by perpetuating the appearance of a healthy fish stock when in actuality a species may be dwindling due to overfishing.⁷¹

C. *Undermining Food Safety*

Numerous studies have found that the mislabeling or swapping of seafood can have serious implications on human health.⁷² Studies have shown that swapping species can expose a consumer to allergens, contaminants, and/or toxins causing consumers to fall ill.⁷³ Unlike other food products, the seafood industry would find it difficult to recall a product in the face of a health scare.⁷⁴ For example, if there was an E. coli outbreak in crops grown on Farm A, due to increased traceability requirements of land crops and livestock it would be easier to trace the crop back to Farm A allowing for a recall.⁷⁵ On the other hand, the origin of seafood becomes increasingly harder to trace continuing down the supply chain; therefore, any type of recall to protect consumer health would be near impossible due to the lack of traceability.⁷⁶

68. See Golden & Warner, *supra* note 3, at 3; Jacquet & Pauly, *supra* note 23, at 314.

69. Jacquet & Pauly, *supra* note 23, at 314.

70. Stiles et al., *supra* note 2, at 26.

71. *Id.* at 26 (referencing D. D. Miller & S. Mariani, *Smoke, Mirrors, and Misabeled Cod: Poor Transparency in the European Seafood Industry*, 8 FRONTIERS IN ECOLOGY & ENV'T 517 (2010)).

72. See Golden & Warner, *supra* note 3, at 4; Jacquet & Pauly, *supra* note 23, at 315.

73. See, e.g., Stiles et al., *supra* note 2, at 18–21.

74. *Id.* at 18.

75. See *id.* at 18.

76. See *id.* (stating origin is often unknown by the time the seafood reaches our plates).

Like the gastrointestinal problems our friend Paul⁷⁷ experienced from consuming escolar swapped for his black seabass, other adverse health effects can be felt from swapped species. The FDA advises women of childbearing age and children to avoid seafood high in mercury.⁷⁸ Currently, the FDA's Seafood List allows for numerous species of tuna to be labeled as ahi tuna.⁷⁹ However, the mercury content of different tuna species that may be labeled as ahi tuna can vary, creating uncertainty in the level of exposure to the consumer.⁸⁰

Furthermore, seafood products can be extremely susceptible to improper handling practices, another reason for requiring greater accountability and traceability of seafood throughout the supply chain.⁸¹ For example, an hour after eating seafood for lunch at a restaurant in Charleston, South Carolina, five people fell ill with symptoms of rapid heart rate and severe stomach pain.⁸² They were diagnosed with scombroid poisoning, or histamine fish poisoning, which is associated with the consumption of improperly refrigerated dark-meat fish.⁸³ With greater traceability, other consumers could be prevented from consuming that same tainted seafood.

IV. FRAUDULENT AND DECEPTIVE PRACTICES DECEIVING SEAFOOD CONSUMERS

A. Fraud in the Supply Chain & Species Substitution

Although studies have established that fraud is occurring, pinpointing exactly where in the supply chain proves troublesome.⁸⁴ The domestic seafood supply chain starts with the harvesters, individuals catching or farming the seafood.⁸⁵ Next, the seafood is shipped to processors, to be

77. *Supra* Part I.

78. FDA & EPA, *What You Need to Know about Mercury in Fish and Shellfish - Advice for Women Who Might Become Pregnant Women Who are Pregnant Nursing Mothers Young Children (Brochure)*, FDA WEBSITE (March 2004), <http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm110591.htm>.

79. Friedman, *supra* note 1.

80. *Id.*

81. See Stiles et al., *supra* note 2, at 18.

82. *Epidemiologic Notes and Reports Scombroid Fish Poisoning -- Illinois, South Carolina*, CTR. FOR DISEASE CONTROL (March 10, 1989), <http://www.cdc.gov/mmwr/preview/mmwrhtml/00001361.htm>.

83. Alicia Minns, *Scombroid Fish Poisoning*, CAL. POISON CONTROL CTR. (Fall 2014), <http://www.calpoison.org/hcp/2014/callusvol12no4.htm>.

84. GAO-09-258, *supra* note 4, at 7.

85. *Id.* at 7.

processed and packaged as fresh, frozen, cooked, or breaded seafood.⁸⁶ The seafood product is then sold to supermarket and restaurant retailers.⁸⁷ For imported seafood products, the process is similar to the domestic process with the exception that an importer brings the seafood into the country, and from there, a distributor takes possession of the seafood.⁸⁸ Seafood fraud can occur at any point along the seafood supply chain;⁸⁹ however, some studies suggest that seafood fraud “is more often done by distributors and the final seafood retailer”⁹⁰ However, no matter where the fraud occurs, fraud in the supply chain is a result of a lack of traceability as the seafood makes its way from hook to cook.⁹¹

Species substitution, a prevalent form of seafood fraud, is a result of fraud in the supply chain.⁹² Somewhere in the supply chain one species, often less expensive, is swapped for and labeled as another species to turn a higher profit.⁹³ Species substitution is most prevalent in red snapper, cod, grouper, and salmon.⁹⁴ Frequent species substitution may negatively impact the seafood industry in South Carolina because the top landed fish species in South Carolina include both the snapper and grouper,⁹⁵ two of the top species being substituted.

B. Eco-Labels

Due to the recent food transparency movement, businesses have strived to appear more environmentally conscious. One of the ways businesses have adapted to the movement is by utilizing eco-labels to market the “environmental performance” of their seafood products.⁹⁶ The eco-labels certify to what extent sustainable practices were used in the catching/raising of the seafood.⁹⁷ Some companies have turned to third-party certifiers to minimize the potential for greenwashing, the use of “misleading publicity or

86. *Id.*

87. *Id.*

88. *Id.*

89. *Id.*

90. Jacquet & Pauly, *supra* note 23, at 309.

91. See, e.g., CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 14 (explaining how traceability can help identify fraud in the supply chain).

92. GAO-09-258, *supra* note 4, at 8.

93. *Id.*

94. See Golden & Warner, *supra* note 3, at 3.

95. Henry et al., *supra* note 50, at 6.

96. Jason J. Czarneckia, Andrew Homand & Meghan Jeansaa, *Greenwashing and Self-Declared Seafood Ecolabels*, 28 TUL. ENVTL. L.J. 37, 37–39 (Winter 2014).

97. See generally *id.* (explaining the certification of eco-labels).

propaganda designed to present an image of environmental responsibility,”⁹⁸ and provide a level of verification and independence.⁹⁹ However, other companies have taken a riskier approach by resorting to establishing their own self-declared eco-labels.¹⁰⁰ The self-declared eco-labels are troublesome because having a plethora of eco-labels creates consumer confusion and makes it harder to verify the accuracy of the claims made by both first and third-party eco-labels.¹⁰¹

On the other hand, even though third-party eco-labelers are considered more reliable, some third-party certifiers have been called into question for their validity of certification.¹⁰² Recently, Marine Stewardship Council (MSC), one of the major third-party eco-labeling companies, was called into question by researchers at Clemson University when three samples of Chilean sea bass certified by MSC were found to be other species.¹⁰³ Thus, both first and third-party eco-labelers, whether intentional or unintentional, may deceive or confuse seafood consumers.

C. FDA Approved Nicknames

Currently, within the United States, seafood sold to consumers in interstate commerce is generally only required to be labeled with the species acceptable market name.¹⁰⁴ A species market name is designated by the FDA’s Seafood List.¹⁰⁵ The Seafood List uses binomial nomenclature¹⁰⁶ guidelines for the labeling of a fish species under a specified market name.¹⁰⁷ The Seafood List does not require the use of the species scientific

98. Craig McClain, *Greenwashing: The Case of “Sustainable Fisheries,”* DEEP SEA NEWS (Oct. 25, 2010), <http://www.deepseanews.com/2010/10/greenwashing-the-case-of-sustainable-fisheries/>.

99. See generally Czarneckia et al., *supra* note 96, at 37–39 (examining how third-party certifications are more verifiable and independent).

100. *Id.* at 37–38.

101. See *id.* (emphasizing how self-declared eco-labels are causing confusion).

102. See Friedman, *supra* note 1; Peter B. Marko et al., *Genetic Detection of Mislabeled Fish from a Certified Sustainable Fishery*, 21 CURRENT BIOLOGY R621–R622 (2011), http://markolab.hawaii.org/Marko_Lab_at_UH_Manoa/Recent_Publications_The_Marko_Lab_files/MarkoCB_2011.pdf.

103. See Friedman, *supra* note 1; Peter B. Marko et al., *supra* note 102, at R621–R622.

104. See CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 9–11.

105. *The Seafood List*, FDA WEBSITE (updated July 2015), <http://www.accessdata.fda.gov/scripts/fdcc/?set=seafoodlist> [hereinafter *The Seafood List*].

106. “Binomial Nomenclature” is defined by The American Heritage Science Dictionary as “[t]he scientific system of naming an organism using two terms, the first being the genus and the second the species.” *Binomial Nomenclature*, THE AM. HERITAGE SCI. DICTIONARY, <http://dictionary.reference.com/browse/binomial-nomenclature> (last visited Nov. 8, 2015).

107. See *The Seafood List*, *supra* note 105.

name (“taxonomic name of an organism that consists of the genus and species”)¹⁰⁸ or common name (local name given to a species) on labels of seafood sold in interstate commerce.¹⁰⁹ An acceptable market name “is a name that the FDA recognizes as a suitable statement of identity in labeling a species” and fairly represents its identity to consumers.¹¹⁰ If a fish bears an unappetizing name, the FDA has approved the use of a completely different market name to make the species sound more appetizing.¹¹¹ The new market name is often eerily similar to that of already popular seafood.¹¹²

By changing the market name to make a species more attractive, the FDA is furthering a deceptive practice. This has allowed for an expansion of the seafood market in rechristening “underutilized” fish species that had unappealing names.¹¹³ Whereas a consumer might turn their nose to purchasing a fillet of slimehead, cleverly renamed, that same consumer might purchase that same fillet if the market name read orange roughy, in place of slimehead.¹¹⁴ This creates additional consumer confusion.

While scientific names can be cumbersome and consumers might be unfamiliar with them, scientific names are uniform across all languages.¹¹⁵ On the other hand, although a common name refers to a single species, common names can vary between regions, creating confusion and lacking uniformity.¹¹⁶ Furthermore, although market names are not complicated like scientific names, market names can serve as an umbrella for multiple species.¹¹⁷ Thus, the use of an acceptable market name can lead to intentional and unintentional seafood fraud due to the overlap of species under the umbrella of a single market name.¹¹⁸

This has led to differing views on what species classification should be required on a label. Oceana has called for species-specific labeling using the scientific name or designating one name for one fish at all points of the

108. *Scientific Name*, FREE DICTIONARY, <http://www.thefreedictionary.com/scientific+name> (last visited May 3, 2016).

109. See *FDA Seafood List & Acceptable Market Names*, FISHWISE (May 26, 2013), <http://fishwise.org/press/blog/226-fda-seafood-list-acceptable-market-names> [hereinafter FISHWISE].

110. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 10.

111. Jacquet & Pauly, *supra* note 23, at 310–11.

112. *Id.*

113. *Id.*

114. See *generally id.* at 311 (citing D. Pauly et al., *The Future for Fisheries*, 302 SCI. 1359, 1359–61 (2003)) (giving an example of how some fish are given more appealing names).

115. FISHWISE, *supra* note 109.

116. See *id.*

117. *Id.*

118. See CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 9–10.

seafood supply chain for “documentation and traceability purposes.”¹¹⁹ However, the National Fisheries Institute (NFI), a trade group representing the seafood industry, has opposed the shift to scientific names at the consumer level.¹²⁰

The NFI ultimately supports the use of scientific names for “traceability purposes” throughout most of the seafood supply chain, however, continues to advocate for the sole use of market names on consumer labels.¹²¹ The NFI argues that because fraud is often an outright lie, requiring more specific names on menus and consumer packaging will make no difference in combatting seafood fraud.¹²²

The same idea was put forth when California’s Senate proposed S.B. 1138¹²³ calling for the labeling of fish and shellfish by common name as well as if wild-caught or farm-raised. The Bill was opposed by the NFI and ultimately vetoed, arguing the requirement would cause consumer confusion without doing much to curb fraud.¹²⁴

D. Transshipping and Mislabeling to Avoid Customs Duties

The Congressional Research Service (CRS) defines transshipment as the occurrence when “foreign producers ship goods through a second country en route to the United States.”¹²⁵ Though generally legal, the practice is illegal when done for the sole purpose to “avoid duties and other applicable trade restrictions,”¹²⁶ such as antidumping duties. Antidumping duties charge a specific duty rate set by the Department of Commerce on imported products to limit the sale of foreign goods sold domestically at a less than fair price.¹²⁷

119. Beth Lowell et al., *One Name, One Fish: Why Seafood Names Matter* 12, OCEANA (2015), <http://usa.oceana.org/OneNameOneFish>.

120. Chelsea Harvey, *The Surprising Importance of How We Label the Fish We Eat*, WASH. POST (July 22, 2015), <http://www.washingtonpost.com/news/energy-environment/wp/2015/07/22/the-surprising-importance-of-how-we-label-the-fish-we-eat/>.

121. *Id.*

122. *Id.* (synthesizing statements made by Gavin Gibbons, the NFI’s vice president of communications).

123. S.B. 1138, 2013–2014 Leg. Reg. Sess. (Cal. 2014).

124. Harvey, *supra* note 120.

125. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 13.

126. *Id.*

127. See *Antidumping Tariff*, BLACK’S LAW DICTIONARY (10th ed. 2014) (defining antidumping tariff as “[a] tariff equaling the difference between the price at which the product is sold in the exporting country and the price at which the importer will sell the product in the importing country. These tariffs are designed to prevent foreign businesses from artificially lowering their prices and gaining unfair advantages outside their home market. Also termed antidumping duty”); GAO–09–258, *supra* note 4, at 9–10.

An example of such a scheme is the transshipment of shrimp from China to the United States by way of Cambodia and Malaysia to avoid paying antidumping duties.¹²⁸ As well, some species are purposefully swapped or mislabeled to avoid paying the duty imposed on the accurate species.¹²⁹ This prevents the United States from collecting money legally owed to it.

E. Short-weighting, Undercounting, and Over-treating

Processors have been known to use short-weighting to defraud customers by “adding excess breadings, ice or salt water to seafood”¹³⁰ or by using inaccurate low weight counts in order to increase the apparent weight. This undercuts the customer by selling them a lesser quantity of seafood meat.¹³¹ Another common industry practice has been over-glazing, the use of excessive amounts of glaze to deliberately drive the net weight of the product up.¹³² Studies have found up to 40% of a seafood product’s weight to be ice,¹³³ a severe mislabeling offense that is governed under the FFDCA.

F. Altered Color

The use of carbon monoxide (CO) to give “fish flesh a fresher-appearing reddish tint” can deceive consumers who use color to judge the freshness of a fish to avoid the purchase of spoiled fish.¹³⁴ Industry practices have increasingly begun to use CO, also known as tasteless smoke (CO/TS), as a fixing agent to prevent a pigment change in fish flesh.¹³⁵ Consumers should be concerned because reports have shown that CO/TS can mask visual cues that occur when seafood develops toxic levels of histamine due to increased exposure of seafood to higher temperatures.¹³⁶ Thus, it is alarming that the

128. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 13; GAO-09-258, *supra* note 4, at 4.

129. Asian catfish was mislabeled as sole specifically to avoid paying antidumping duties. Press Release, NOAA, NOAA Investigations Into Mislabeling Seafood Protects Consumers and Fishermen (Feb. 4, 2011), http://www.noaa.gov/stories/2011/20110204_seafoodmislabeling.html.

130. Stiles et al., *supra* note 2, at 12.

131. *See id.* (adding excess quantities of other materials allows restaurants to get away with selling smaller quantities of fish); CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 11.

132. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 11.

133. Stiles et al., *supra* note 2.

134. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 11.

135. *See* Steve Slattery, *Food Packaging and Shelf Life*, in A PRACTICAL GUIDE 279 (Gordon L. Robertson ed., 2009).

136. *See* Letter from Janice F. Oliver, Deputy Director, Center for Food Safety and Applied Nutrition, FDA, to Martin J. Hahn, Hogan and Hartson L.L.P. (March 10, 2000),

FDA has not made a determination that CO/TS meets the “generally recognized as safe” (GRAS) standard for use as a preservative.¹³⁷ Concerns for consumers, like the five individuals in Charleston, SC, diagnosed with histamine poisoning from spoiled seafood, drove consumer advocacy groups to call on the FDA to make a formal determination of the impact of the use of CO/TS in seafood.¹³⁸ The FDA still has yet to make this determination.¹³⁹

G. Farm-raised Fish Labeled as Wild-caught

Although fish may be labeled under the accurate species, labeling as farm-raised or wild-caught can still mislead consumers. Studies have found seasonable variability in the mislabeling of farm-raised as wild-caught.¹⁴⁰ For example, during the summer and fall when wild salmon runs were abundant, there was little mislabeling, on the other hand, during the seasons when runs were depleted, more than half the salmon tested, which were labeled as wild, were in fact farm-raised.¹⁴¹ Recall Mary’s purchase of farm-raised tilefish, improperly labeled as wild-grouper.¹⁴² Through improper labeling, Mary was unknowingly exposed to higher levels of antibiotics and contamination by consuming farm-raised verses wild-caught seafood.¹⁴³ However, even if the seafood had been properly labeled as farm-raised, under current labeling requirements, labels may still not warn consumers of the increased antibiotics and contamination.¹⁴⁴

<http://www.fda.gov/Food/IngredientsPackagingLabeling/GRAS/NoticeInventory/ucm154892.htm> (noting that the usage of tasteless smoke affects the color of the tuna and misleads consumers).

137. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 12.

138. See Oliver, *supra* note 136; CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 12.

139. As of January 27, 2017, the FDA still has yet to make a GRAS determination for use of CO/TS in seafood.

140. Anonymous, *The Salmon Scam*, “WILD OFTEN ISN’T,” 71 CONSUMER REP. 15 (Aug. 2006).

141. Jacquet & Pauly, *supra* note 23, at 313 (citing *id.*).

142. See *supra* Part I.

143. Jacquet & Pauly, *supra* note 23, at 315 (referencing R. A. Hites et al., *Global Assessment of Organic Contaminants in Farmed Salmon*, 303 SCIENCE 226–29 (2004); Stiles et al., *supra* note 2, at 19).

144. See 7 C.F.R. § 60.300 (2015) (COOL requirements governing labeling for farm-raised and wild-caught fish require the label to state the production method with no further mandates to disclose the chemicals or feed used in farm-raised fish).

H. Country of Origin Labeling (COOL)

Mislabeling the country of origin is another form of seafood fraud that can be used to deceive consumers. Confusion over defining labeling requirements for “country of origin” has led to a lack of uniformity in industry labeling practices.¹⁴⁵ Is the country of origin appropriate for where the seafood was caught, the flag of the harvesting vessel, where the harvest was first landed, or perhaps where the product was first processed?¹⁴⁶ This can be of great importance when a fish is harvested in one country, shipped to another for processing, and exported to yet another country for distribution. The lack of COOL altogether creates the possibility that seafood might be sold as domestic or locally caught when in fact it is imported from another country.

Under current legislation, processed food items are exempt from COOL requirements.¹⁴⁷ Thus, the fish stick’s fed to millions of school age children could potentially be farm-raised fish from Vietnam where certain drugs, illegal for use in aquaculture in the United States, are still used.¹⁴⁸ However, due to the lack of COOL requirements on processed food, a concerned parent or school board might not be able to constructively inquire into the matter due to the lack of traceability. For this and numerous other traceability issues listed above, consumers and businesses have become more engaged in the food movement, furthering the effort to trace seafood throughout the supply chain from hook to cook.¹⁴⁹

V. TRACEABILITY

Despite the recent consumer demand for greater food transparency, due to the majority of seafood being imported, it can be difficult to accurately trace seafood throughout the supply chain.¹⁵⁰ However, Oceana states, “[i]n order to prevent fraud, consumers need to know where seafood comes from

145. See, e.g., CRS SEAFOOD FRAUD Report, *supra* note 5, at 13 (discussing the mislabeling of the country of origin).

146. See *id.* (discussing different questions related to labeling country of origin on seafood).

147. See 7 C.F.R. § 60.105 and 7 C.F.R. § 60.119, statutes exempting processed food from COOL requirements.

148. See Friedman, *supra* note 1 (stating the United States imports a large quantity of seafood from Vietnam).

149. See, e.g., CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 13 (highlighting the new effort from consumers and businesses to trace seafood).

150. See *id.* at 14 (explaining the difficulty of tracking imported seafood).

and be able to trace it all the way back to the sea.”¹⁵¹ Seafood traceability is the “ability to systematically identify a unit of production, track its location, and describe any treatments or transformations at all stages of production, processing, and distribution.”¹⁵² It requires accurate record keeping of information and proper handling protocol as the seafood is landed, processed, packaged, and distributed.¹⁵³ Accurate traceability of seafood would help identify where fraud is occurring in the supply chain, allowing retailers and government agencies to “identify, locate, and withdraw harmful products from stores and restaurants.”¹⁵⁴

Currently, seafood retailers provide little information to consumers regarding the seafood origin and the mechanisms used for harvesting.¹⁵⁵ However, recent consumer concern over product identity, quality, and sustainability has led to industry change, spurring a greater industry interest in seafood traceability from boat to plate.¹⁵⁶ Thus, retailers like Wal-Mart have been committing to selling only MSC, a dominant third party eco-labeler, certified seafood in an effort to confirm species identity, origin, and sustainability for consumers.¹⁵⁷ However, as discussed in Part IV, sometimes eco-labelers fall short in their guarantees.¹⁵⁸

Moreover, post September 11, 2001, the United States federal government became more concerned with food traceability. The Public Health Security and Bioterrorism Preparedness and Response Act of 2002¹⁵⁹ “requires producers, distributors, importers, transporters, and packers to maintain records of the sources and recipients of its products, for one step forward and one step back in the supply chain.”¹⁶⁰ However, this only

151. Stiles et al., *supra* note 2, at 3.

152. *Seafood Traceability Definitions*, FISHWISE (April 14, 2015), <http://fishwise.org/index.php/press/blog/287-seafood-traceability-definitions> (citing ANNA MAGERA & SADIE BEATON, SUSTAINABLE SEAFOOD CANADA, SEAFOOD TRACEABILITY IN CANADA: TRACEABILITY SYSTEMS, CERTIFICATION, ECO-LABELING AND STANDARDS FOR ACHIEVING SUSTAINABLE SEAFOOD 3 (2009), http://www.ecologyaction.ca/files/images/file/Marine/Seafood_Traceability_in_Canada.pdf).

153. Stiles et al., *supra* note 2, at 3; Mariah Boyle, *Without a Trace II: An Update Summary on Traceability Efforts in the Seafood Industry*, FISHWISE (2012), www.fishwise.org/services/traceability-support.

154. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 14.

155. *Id.*

156. *See id.* (adopting systems to trace products from “capture to plate” can improve profits); Boyle, *supra* note 153, at 3.

157. *See* CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 4, 14 (stating that companies are publicly committing to sustainable seafood sourcing policies).

158. *See supra* Part IV.

159. Public Health Security and Bioterrorism Preparedness and Response Act of 2002, Pub. L. No. 107-188, 116 Stat. 594 (2002) (codified as amended at 21 U.S.C. § 350c (2012)).

160. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 14.

ensures accurate record keeping for where something was shipped from or shipped to but does not affect the labeling of the seafood.¹⁶¹ Furthermore, restaurants and aquaculture operations are exempt from the Act.¹⁶²

However, progress has been made on several fronts. DNA testing is being used to aid in the identification of seafood throughout the supply chain.¹⁶³ As CRS explains, “[e]ach species of fish has a unique DNA sequence, sometimes referred to as a barcode,” which allows the species to be identified from a small flesh sample.¹⁶⁴ Capitalizing on this relatively inexpensive DNA testing, the FDA initiated a DNA barcoding identification program and compiled a database of DNA barcodes including DNA sequences, scientific names, and photographs for over 400 fish species.¹⁶⁵ The FDA routinely uses this testing in conjunction with investigations into seafood fraud by running flesh samples through the database for species identification.¹⁶⁶

While increased traceability efforts will help in the fight against seafood fraud, cooperation of domestic and foreign importers is necessary and the costs of implementing a uniform system must be considered.

VI. FEDERAL LAWS AND AGENCY AUTHORITY OVER SEAFOOD

A. *Federal Food, Drug and Cosmetics Act of 1938 (FFDCA) & Fair Packaging and Labeling Act (FPLA)*

The FFDCA grants the FDA the primary authority, on the federal level, for monitoring and regulating food safety and mislabeling, including authority over seafood.¹⁶⁷ The FDA is further granted authority under FPLA to inspect and ensure labels, on food distributed for commerce, accurately report the identity of the commodity, the manufacturer, packer, or

161. Gretchen Goetz, *Looking Upstream: Seafood Traceability in a Global Economy*, FOOD SAFETY NEWS 5 (May 20, 2013), <http://www.foodsafetynews.com/2013/05/looking-upstream-seafood-traceability-in-a-globaleconomy/#.VPCndodxtUQ>.

162. 21 U.S.C. § 350c (2012).

163. See CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 8–9; Jacquet & Pauly, *supra* note 23, at 316.

164. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 8–9.

165. *Id.* at 9 (referencing *Vertebrates: Reference Standard Sequence Library for Seafood Identification*, FDA WEBSITE (last updated June 17, 2015), <http://www.fda.gov/Food/FoodScienceResearch/DNASeafoodIdentification/ucm238880.htm>).

166. *Id.*

167. See 21 U.S.C. §§ 301–399(f) (2012 & Supp. I 2013) (delegating the FDA’s responsibility in monitoring for seafood safety and mislabeling); CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 3.

distributor, and “the net quantity of contents (in terms of weight or mass, measure, or numerical count).”¹⁶⁸

FFDCA provides definitions and standards for food and prohibits the introduction, receipt, and delivery of adulterated or misbranded food into commerce.¹⁶⁹ Among other things, food is deemed “misbranded” if its “labeling is false or misleading,” if it’s “offered for sale under the name of another food,” or if it’s an “imitation of another food.”¹⁷⁰ Thus, the practice of short-weighting, undercounting, and over-treating of seafood, which leads to inaccurate weight labeling on seafood sold in interstate commerce, are violations of FPLA and considered a misbranding of food within the meaning of FFDCA.¹⁷¹ Furthermore, a food is deemed “adulterated” if, among other things, “it bears or contains any poisonous or deleterious substance which may render it injurious to health . . .”¹⁷² or if “any substance has been substituted wholly or in part therefor.”¹⁷³ Thus, the common practice of species substitution is deemed adulteration and punishable under the FFDCA.

B. Food and Drug Administration (FDA)

To further regulate food fraud in the United States, the Department of Health and Human Services (HHS), to which the FDA is an agency, was granted general authority to promulgate regulations for the enforcement of FFDCA.¹⁷⁴ Thus, under this authority, the FDA’s jurisdiction extends to seafood and allows agency oversight programs for nearly all fish and fishery products.¹⁷⁵ Among other things, the FDA’s programs include researching, examining, and sampling of imported seafood products; inspecting domestic and foreign seafood processors and importers; and assisting state and local governments in efforts to regulate retail establishments, such as restaurants and supermarkets.¹⁷⁶ Seafood processors and importers are charged with

168. 15 U.S.C. § 1453(a) (2012).

169. *See* 21 U.S.C. §§ 341–343 (2012 & Supp. I 2013).

170. 21 U.S.C. § 343 (2012).

171. *Id.*

172. However, a food is not deemed adulterated under this clause if “the substance is not an added substance . . . [and] the quantity of such substance in such food does not ordinarily render it injurious to health.” 21 U.S.C. § 342(a)(1) (2012).

173. 21 U.S.C. § 342(b)(2) (2012).

174. 21 U.S.C. § 371 (2012).

175. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 4. Note, it is under this authority that the FDA was able to promulgate the Seafood List, discussed above in Part IV.

176. GAO-09-258, *supra* note 4, at 10.

complying with the FDA's regulations to ensure the safety, wholesomeness, identity, and economic integrity of seafood.¹⁷⁷

However, a blatant gap in the FDA's efforts to combat seafood fraud is found in the lack of measures to detect and mitigate seafood fraud in the Hazard Analysis and Critical Control Points Program (HACCP), the FDA's oversight program for seafood processors.¹⁷⁸ The United States Government Accountability Office (GAO) found that the FDA was limited in its seafood fraud detection because HACCP does not require processors to identify and mitigate economic fraud risks that can occur during processing.¹⁷⁹ In addition, the GAO found that the FDA failed to adequately use the authority given to the agency under the Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA),¹⁸⁰ which requires that "species of fish or shellfish be included on product labels to notify consumers who might be allergic to a particular species of fish."¹⁸¹ The GAO states that the FALCPA could be used to "help detect and prevent species substitution, since processors would need to verify the species of fish or shellfish to ensure accurate labeling."¹⁸²

C. Customs and Border Protection (CBP)

CBP is also granted authority under FFDCA to enforce labeling regulations at ports of entry in the United States.¹⁸³ As well, the Tariff Act of 1930¹⁸⁴ gives CBP the authority to enforce the Act's requirement that all imported goods be marked with their country of origin for the ultimate purchaser,¹⁸⁵ "the last person to receive the article in the form in which it was imported."¹⁸⁶ CBP declares the country of origin to be the last country in which a "substantial transformation" took place.¹⁸⁷ Furthermore, CBP is charged with reviewing seafood importation documentation to detect

177. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 4.

178. Stiles et al., *supra* note 2, at 31.

179. GAO-09-258, *supra* note 4, at 5.

180. 21 U.S.C. § 343(w) (2012); 21 U.S.C. § 321(qq) (2012).

181. GAO-09-258, *supra* note 4, at 5.

182. *Id.*

183. See 21 U.S.C. § 381(j) (2012).

184. 19 U.S.C. §§ 1202–1683g (2012 & Supp. II 2014).

185. 19 U.S.C. § 1304(a) (2012).

186. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 5.

187. *United States v. Murray*, 621 F.2d 1163, 1169 (1st Cir. 1980) (defining "substantial transformation" as "a fundamental change in the form, appearance, nature, or character of an article which adds to the value of the article an amount or percentage which is significant in comparison with the value which the article had when exported from the country in which it was first manufactured, produced, or grown").

schemes for avoiding payment of appropriate customs duties, such as transshipping products as mentioned in Part (IV)(d).¹⁸⁸

D. Federal Trade Commission (FTC)

The Federal Trade Commission Act¹⁸⁹ delegates authority to the FTC to regulate the content of seafood labels as well as false advertising and marketing of seafood products that use deceptive practices to induce a sale.¹⁹⁰ Thus, the FDA and FTC have overlapping authority in the regulation of mislabeled seafood.¹⁹¹ Furthermore, the FTC publishes Green Guides, which provide “interpretive guidance for what may or may not be considered deceptive or misleading and receive deference from the courts, they [green guides] are nonbinding and occupy a deferred-to-middle space between legally mandatory eco-labeling requirements and truly voluntary standards.”¹⁹²

*E. National Oceanic and Atmospheric Administration (NOAA)*¹⁹³

Under the authority of the Agricultural Marketing Act of 1946,¹⁹⁴ NOAA takes the role of combatting seafood fraud through its voluntary, fee-for-service inspection program, which involves the inspection of seafood purchased by retailers, distributors, and processors, among others, to verify the net weight of the product and that the species has been correctly identified.¹⁹⁵ Although NOAA reported to GAO in 2009 that NOAA inspects approximately one-third of seafood consumed within the United States,¹⁹⁶ GAO found that NOAA did not “maintain a comprehensive list of all lot inspections conducted and, thus, does not have the ability to determine the frequency with which it uncovers fraudulent seafood products.”¹⁹⁷ As of

188. *See id.*; GAO-09-258, *supra* note 4, at 2.

189. 15 U.S.C. §§ 41–58 (2012).

190. *See* 15 U.S.C. § 41 (2012).

191. Statutes 21 U.S.C. § 371 (2012) and 15 U.S.C. §§ 41–58 (2012) grant both agencies the authority to act in various capacities to regulate seafood.

192. Czarneckia et al., *supra* note 96, at 52.

193. This program has also been identified as the National Marine Fisheries Seafood Inspection Program. The Seafood Inspection Program is part of the National Marine Fisheries Service (NMFS) office within NOAA, which is an agency in the Department of Commerce. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 5 n. 32.

194. 7 U.S.C. § 1621 et. seq. (2012 & Supp. II 2014).

195. *See* GAO-09-258, *supra* note 4, at 10.

196. *Id.* at 17.

197. *See id.*

2009, the FDA did not rely on inspections done by NOAA, resulting in an overlap of testing by FDA and NOAA.¹⁹⁸ Thus, the GAO found that, “some facilities may be ‘over-inspected,’ while others are not inspected frequently enough.”¹⁹⁹

F. Agriculture Marketing Services of the United States Department of Agriculture (USDA)

The USDA is responsible for the inspection of catfish,²⁰⁰ as well as for enforcing country or origin labeling (COOL) for seafood products.²⁰¹ COOL labeling discloses the country from which the seafood came, as well as if the seafood was farm-raised or wild-caught.²⁰² However, COOL does not require such labeling on “processed food items”²⁰³ including cooked, roasted, cured, and smoked food items.²⁰⁴ For example, while a whole broiled fish would be exempt from COOL, a whole raw fish would not.²⁰⁵ Thus, a large percentage of food is exempt from COOL labeling in the United States.

G. The Lacey Act Amendments of 1981

The Lacey Act Amendments of 1981,²⁰⁶ make it unlawful for a person to knowingly “make or submit any false record, account, or label for, or any false identification of, any fish or wildlife that has been or is intended to be (1) imported, transported, purchased, or received from any foreign country; or (2) transported in interstate or foreign commerce.”²⁰⁷ To be an offense under the Lacey Act, the seafood must be sold in interstate commerce.²⁰⁸ Furthermore, civil penalties under the Lacey Act are imposed only if an

198. *Id.* at 6.

199. *Id.*

200. Food, Conservation and Energy Act of 2008, Pub. L. No. 110-246, 122 Stat. 1651 (2008) (transferring catfish inspection responsibilities from the FDA, to the USDA).

201. See *Seafood Guide*, FOOD & WATER WATCH, <https://www.foodandwaterwatch.org/common-resources/fish/seafood/labeling> (last visited Nov. 8, 2015); 7 U.S.C. § 1638a (2012 & Supp. II 2014).

202. See *id.*

203. 7 C.F.R. § 65.300(c) (2015).

204. 7 C.F.R. § 65.220 (2015).

205. See, e.g., *Understanding How the Country of Origin Labeling Program Affects Farmers*, FARMERS LEGAL ACTION GROUP 2–3, www.flaginc.org/wp-content/uploads/2013/03/COOL_FactSheet_long.pdf (last visited Nov. 8, 2015).

206. 16 U.S.C. §§ 3371–3378 (2012) [hereinafter known as the Lacey Act].

207. 16 U.S.C. § 3372(d) (2012).

208. See 16 U.S.C. § 3373 (2012).

offender knows or should know their taking or transporting of fish or wildlife is unlawful.²⁰⁹ Criminal Penalties are only imposed under the Act if the offender acted “knowingly.”²¹⁰ Furthermore, in order to impose penalties, there must be a minimum market value of \$350, which, courts have held, may be calculated from the price of the hunt, as well as by aggregating the values of the animals taken.²¹¹ The Lacey Act also has a forfeiture provision applied on a strict liability basis eliminating any “innocent owner” defense.²¹²

NOAA, the FDA, and the CBP are all charged with enforcing the provisions of the Lacey Act.²¹³ NOAA’s Office of Law Enforcement, in conjunction with the Louisiana Department of Wildlife and Fisheries, used their authority under the Lacey Act to open a recent seafood fraud investigation of North Carolina-based seafood processor and wholesale distributor Alphin Brothers, Inc.²¹⁴ The company was sentenced in federal court on August 11, 2015, “for falsely labeling imported shrimp.”²¹⁵ Court documents presented evidence that an employee, who purchased and sold shrimp on Alphin Brothers’ behalf, instructed other company employees to falsely label around 25,000 pounds of farm-raised imported shrimp as wild-caught domestic product of the United States.²¹⁶ The falsely labeled shrimp were then sold in interstate commerce by Alphin Brothers, Inc., to customers in Louisiana.²¹⁷ The company pled guilty to one felony count of violating the Lacey Act through the making or submitting of false records.²¹⁸ The company was sentenced to pay a fine of \$100,000, serve a three-year probation, forfeit roughly 21,000 pounds of shrimp, and start a training program to educate company employees on federal labeling requirements.²¹⁹

209. 16 U.S.C. § 3373(a)(1) (2012).

210. *Id.* at § 3373(d).

211. *Id.*

212. *See* 16 U.S.C. § 3374(a) (2012).

213. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 6.

214. *See* Press Release, U.S. Dept. of Justice, North Carolina Seafood Processor and Distributor Sentenced for Mislabeling Shrimp (August 11, 2015), http://www.noaaanews.noaa.gov/stories2011/20110204_seafoodmislabeling.html.

215. *Id.*

216. *See id.*

217. *Id.*

218. *Id.*

219. *Id.*

H. Proposed Federal Bills

In an effort to increase cooperation between agencies in combatting seafood fraud, both H.R. 1012 and S. 520 were introduced during the 113th Congress.²²⁰ Both Bill's required a report to be given to Congress every two years evaluating antifraud measures, as well as, increased cooperation between government agencies, and enhanced traceability on seafood imported and/or sold in interstate commerce.²²¹ The Bill's both required records to include location and method of the harvest, date, weight or number caught, and acceptable FDA market name and scientific name.²²² Like similar Bills proposed during the 112th Congress, no actions were taken on either Bill during the 113th Congress and no similar bills have been introduced in the 114th Congress.²²³

I. Presidential Task Force on Illegal, Unreported, and Unregulated (IUU) Fishing and Seafood Fraud, Co-Chaired by the Departments of Commerce and State

As a result of mounting concern over seafood fraud, on June 17, 2014, the White House released a presidential memorandum entitled, "Comprehensive Framework to Combat Illegal, Unreported, and Unregulated Fishing and Seafood Fraud."²²⁴ The memorandum put together a taskforce of agency members to propose recommendations to combat fraud.²²⁵ The taskforce ultimately put forth fifteen recommendations that called for improved cooperation and collaboration between federal agencies as well as international, state, and local authority collaboration.²²⁶ Overall, the task force recommended: international collaboration, better use of enforcement laws, increased information sharing, standardization of rules on identifying the species, common name, and origin of seafood, the creation of partnership between federal, state, and local governments as well as businesses, and implementation of a traceability program.²²⁷

220. H.R. 1012, 113th Cong. (2013); S. 520, 113th Cong. (2013).

221. *Id.*

222. *Id.*

223. CRS SEAFOOD FRAUD REPORT, *supra* note 5, at 2.

224. Presidential Memorandum, *supra* note 55.

225. *See id.*

226. PRESIDENTIAL TASK FORCE ON COMBATING IUU FISHING AND SEAFOOD FRAUD, ACTION PLAN FOR IMPLEMENTING THE TASK FORCE RECOMMENDATIONS 3 (March 15, 2015).

227. *See* Presidential Memorandum, *supra* note 55.

Although this initiative appears promising, as evidenced above in Part VI, there has been little cooperation between federal agencies, much less state, local, and international cooperation.²²⁸ Thus, it has yet to be seen how effective the National Ocean Council will be at implementing the task force's recommendations. Furthermore, with the 2016 presidential elections looming, it remains to be seen if the next presidential cabinet will support and fund this initiative.

VII. SOUTH CAROLINA LAWS AND REGULATIONS ON SEAFOOD FRAUD

A. Mislabeling and Adulteration: South Carolina Food and Cosmetic Act (SCFCA)

The SCFCA is the primary state law in South Carolina that addresses food safety and mislabeling.²²⁹ The SCFCA gives the Commissioner of the Department of Agriculture of South Carolina (DASC) primary authority over most food regulation in the state, the authority to enter and inspect premises and copy records, and the authority over agency enforcement remedies.²³⁰ SCFCA has adopted the regulations and amendments of the FFDCA as well as the Fair Packaging and Labeling Act (FPLA),²³¹ and the Food Allergen Labeling and Consumer Protection Act (FALCPA).²³² SCFCA § 39-25-30 prohibits the adulteration or misbranding of food, introducing adulterated or misbranded food into commerce, adulterating or misbranding food that is in commerce, and the receipt in commerce of adulterated or misbranded food by any manufacturer, packer, distributor, or seller of the article.²³³

Among other things, food is deemed misbranded under SCFCA if the label is false or misleading or it is offered for sale under the name of another food.²³⁴ Food is deemed to be adulterated if it contains any poisonous or deleterious substance making it injurious to health, if any substance has been substituted wholly or in part, or if any substance has been added to increase

228. *Supra* Part VI.

229. *See generally* S.C. CODE ANN. §§ 39-25-10 – 39-25-210 (1985 & Supp. 2014).

230. *See generally id.*

231. *See* S.C. CODE ANN. §§ 39-25-180(K), (G) (Supp. 2014).

232. *See id.*

233. *See generally* S.C. CODE ANN. § 39-25-30 (Supp. 2014).

234. *See* S.C. CODE ANN. § 39-25-110(a) (1985).

its bulk weight.²³⁵ Thus, species substitution, a common form of seafood fraud, violates the federal and state prohibition against adulteration.²³⁶

If a person's actions are found to be in violation of the provisions of § 39-25-30, prohibiting adulteration and misbranding, the Commissioner is authorized to apply to the appropriate circuit court for a temporary or permanent injunction.²³⁷ Any person violating said provisions shall be held guilty of a misdemeanor and upon conviction for their first violation will be subject to imprisonment up to six months and/or fined up to \$1000; for a second or subsequent violation and upon conviction, the individual will be subject to imprisonment up to two years and/or fined up to \$5000.²³⁸ Furthermore, the Commissioner is granted the authority to publish "reports summarizing all judgments, decrees and court orders which have been rendered . . . including the nature of the charge and the disposition thereof" of violations under SCFDCA.²³⁹

A product's label must be in accordance with FALCPA and FPLA and submitted to SCDA to assure its compliance with both laws.²⁴⁰ SCDA's general labeling requirements are as follows:

1. a statement of identity using the name specified by an applicable law or regulation, or in the absence thereof the common name of the food;²⁴¹
2. parallel to the bottom third of the principal display panel, a NET WT or NET CONTENTS statement should be displayed in customary and metric measurement;²⁴²
3. the business name and address;²⁴³ and
4. a complete ingredient list, including all major allergens (which includes finfish and shellfish).²⁴⁴

235. See S.C. CODE ANN. § 39-25-100(a) (1985).

236. See generally S.C. CODE ANN. § 39-25-100 (1985); 21 U.S.C. § 342(b) (2012).

237. See S.C. CODE ANN. § 39-25-40 (1985).

238. S.C. CODE ANN. § 39-25-50(a) (1985).

239. S.C. CODE ANN. § 39-25-200(a) (1985).

240. *Food/Feed Safety Compliance*, S.C. DEPT. OF AGRIC., <http://agriculture.sc.gov/divisions/consumer-protection/foodfeed-safety-compliance/> (last visited Jan. 8, 2016) [hereinafter *SCDA Food/Feed Safety Compliance*].

241. See S.C. CODE ANN. REGS. 5-301 (2011); *SCDA Food/Feed Safety Compliance*, *supra* note 240.

242. *SCDA Food/Feed Safety Compliance*, *supra* note 240.

243. See S.C. CODE ANN. REGS. 5-303 (2011).

244. *SCDA Food/Feed Safety Compliance*, *supra* note 240.

B. Uniform Weights and Measures Law: SCFCA

The DASC Commissioner is also granted authority under South Carolina's Uniform Weights and Measures Law²⁴⁵ (UWML) to enforce and test that accurate weights and measures are being recorded on commodities for sale.²⁴⁶ A person in violation of UWML is guilty of a misdemeanor, receiving a fine of \$200–\$500 and/or imprisonment up to three months.²⁴⁷ Upon a subsequent conviction, a fine of \$500–\$1000 and/or imprisonment of up to one year will be administered.²⁴⁸ A person in violation of UWML may also be subject to a civil penalty, receiving a fine between \$100–\$200 for a first offense, \$250–\$500 for a second offense within two years from the date of the first offense, and \$1000–\$5000 for a third offense within two years from the date of the first offense.²⁴⁹

C. Shellfish & Crabmeat: Department of Health and Environmental Control (DHEC)

DHEC is charged with safeguarding public health and providing consumers with safe, unadulterated, and honestly presented food.²⁵⁰ DHEC does so through the setting of standards for food operations, equipment, and facilities,²⁵¹ issuing retail food establishment permits,²⁵² and inspecting for compliance with food law, including federal regulations for food labeling.²⁵³ Specific to seafood regulation, DHEC is authorized to promulgate sanitation regulations for the safe and sanitary “harvesting, storing, processing, handling and transportation of mollusks, fin fish and crustaceans.”²⁵⁴ DHEC has further promulgated specific regulations for the handling, labeling, and transporting of shellfish and crabmeat.²⁵⁵ As well, DHEC defines the adulteration of shellfish as, “[s]hellfish that contain any added substance,

245. See Uniform Weights and Measures Law, S.C. CODE ANN. §§ 39-9-10–39-9-240 (Supp. 2014).

246. See S.C. CODE ANN. §§ 39-9-70, 39-9-110, 39-9-200 (Supp. 2014).

247. See S.C. CODE ANN. § 39-9-208(A) (Supp. 2014).

248. See *id.*

249. Note, under UWML, “[a] person who by himself, by his servant or agent, or as the servant or agent of another person commits one or more of the acts enumerated in Section 39-9-200 may be subject to a civil penalty.” S.C. CODE ANN. § 39-9-203 (Supp. 2014).

250. See 1 S.C. CODE ANN. REGS. 1-102.10 (2011).

251. 1 S.C. CODE ANN. REGS. 9-1 to 9-11 (2011).

252. 1 S.C. CODE ANN. REGS. 8-301 to 8-304 (2011).

253. 1 S.C. CODE ANN. REGS. 3-201 (2011) (authorizing inspection for food labeling in compliance with 21 C.F.R. 101 (2015)).

254. S.C. CODE ANN. § 44-1-140(5) (2002).

255. See 4 S.C. CODE ANN. REGS. 61-47, 61-49 (2011).

unless the substance is authorized by the Department or the United States Food and Drug Administration.”²⁵⁶ DHEC can bring civil court proceedings or impose criminal sanctions for the adulteration of shellfish.²⁵⁷

DHEC requires crabmeat to be clearly labeled when pasteurized and prohibits the “[b]lending of fresh, and/or frozen and/or pasteurized crab meat”²⁵⁸ DHEC also requires that “[a]ll owners and operators of Blue Crab Meat production plant and facilities . . . obtain an approval from the Bureau of Environmental Engineering of the South Carolina State Board of Health before constructing such a plant or facilities and also before operating the plant or facilities.”²⁵⁹ Thus, the state has taken steps to regulate Atlantic Blue Crab, which has been known to frequently be adulterated.²⁶⁰ Violating provisions regulating crabmeat is punishable by a max fine of \$100 or imprisonment not exceeding 30 days, and each subsequent day of continued violation shall be a separate offense.²⁶¹

D. South Carolina Marine Resources Act of 2000 (SCMRA): SCDNR

SCMRA, among other things, defines and categorizes specific saltwater species under common names; grants the South Carolina Department of Natural Resources (SCDNR) the authority to search vessels, confiscate contraband, receive assistance from state peace officers in enforcing the fish and game laws of the state; and promulgate regulations for the buying and selling of seafood, as well as licensing and permitting for commercial purposes.²⁶²

256. 4 S.C. CODE ANN. REGS. 61-47(A)(2)(a)(6) (2011).

257. 4 S.C. CODE ANN. REGS. 61-47(P) (2011).

258. 4 S.C. CODE ANN. REGS. 61-49(1)(f), (19), (20) (2011) (defining “pasteurized” as “the process of heating every particle of crab meat in an approved hermetically-sealed container to a temperature of at least 185°F and holding it continuously at or above this temperature for at least one minute in properly operated equipment approved by the South Carolina State Board of Health”).

259. 4 S.C. CODE ANN. REGS. 61-49(28)(i) (2011).

260. *See generally* Rentz, *supra* note 52.

261. 4 S.C. CODE ANN. REGS. 61-49(28)(3) (2011).

262. *See* South Carolina Marine Resources Act of 2000, S.C. CODE ANN. §§ 50-5-10 to -2740 (2008 & Supp. 2014). The SCMRA defines a “commercial purpose” as “(a) being engaged in buying or selling fish; (b) taking or attempting to take fish in order to derive income or other consideration; (c) using commercial equipment; and (d) otherwise being engaged in the fisheries industry with the intent to derive income.” S.C. CODE ANN. § 50-5-15(12) (2008). Furthermore, the Act defines “contraband” as “[a]ny fish or fishery product taken or possessed in violation of any provision of this chapter [five]” and “may be seized along with its container and disposed of according to law.” S.C. CODE ANN. § 50-5-65 (2008).

For example, the Act defines “herring” as “all life stages of the river herrings being blueback herring (*Alosa aestivalis*) and alewife (*Alosa pseudoharengus*);”²⁶³ defines “shad” as “[a]merican or white shad (*Alosa sapidissima*) and hickory or skip-jack shad (*Alosa mediocris*);”²⁶⁴ and defines “peeler crab” as “a hard crab of the blue crab species (*Callinectes sapidus*) which has a fully formed soft shell beneath the exterior hard shell and exhibits molt signs in the form of red, pink, or white lines just inside the exterior margin of the rear paddle (swimming) legs.”²⁶⁵

In order to buy and resell seafood in South Carolina, one must be granted a commercial fishing license or wholesale license by SCDNR.²⁶⁶ If an individual only has a wholesale license, they must buy from a licensed commercial fisherman or wholesaler.²⁶⁷ Furthermore, to sell or transport seafood products in South Carolina, a person or entity must have in their possession:

[D]ated bills of lading, invoices, receipts, bills of sale, or similar documents showing the quantity of each species and type of saltwater fishery products to be sold or transported and the name of the licensed commercial saltwater fisherman or licensed wholesale seafood dealer from whom the products were purchased or received. As it relates to operation of a vessel or vehicle, this subsection does not apply to a licensed commercial saltwater fisherman transporting his catch to a licensed seafood dealer.²⁶⁸

Provisions are generally the same for the interstate sale of any saltwater fish or fishery products taken, landed, produced, or cultured in South Carolina.²⁶⁹ However, further provisions are provided for the sale of shrimp, receiving of Atlantic sturgeon, and importation of red drum or spotted seatrout.²⁷⁰ Violating S.C. Code Ann. § 50-5-365 or § 50-5-370 is deemed a

263. S.C. CODE ANN. § 50-5-15(30) (Supp. 2014).

264. S.C. CODE ANN. § 50-5-15(49) (Supp. 2014).

265. S.C. CODE ANN. § 50-5-15(39) (Supp. 2014).

266. See S.C. CODE ANN. § 50-5-365 (2008).

267. See S.C. CODE ANN. § 50-5-365 (D)(1)-(2) (2008).

268. S.C. CODE ANN. § 50-5-365(E) (2008).

269. Compare *id.*, with S.C. CODE ANN. § 50-5-370(B) (2008) (not requiring the name of the commercial fisherman and allowing for the name of the licensed wholesale seafood dealer or retail establishment from whom the products were purchased or received to be reported).

270. See S.C. CODE ANN. § 50-5-366 (2008); S.C. CODE ANN. § 50-5-1530 (2008); S.C. CODE ANN. § 50-5-1700 (Supp. 2014).

misdemeanor, and upon conviction, violators shall receive a fine between \$200–\$1000 or imprisonment for up to thirty days.²⁷¹

Furthermore, SCMRA requires “[e]very wholesale seafood dealer . . . keep and retain accurate records detailing the information required by the department [SCDNR]”²⁷² Yet, SCDNR’s regulations make no reference to “the information required by the department.”²⁷³ However, the Commercial License and Permit Supervisor for the DNR Office of Fisheries Management clarified that “the information required by the department” was essentially a logbook of trip tickets.²⁷⁴ SCDNR requires that “[a]ll licensed wholesale seafood dealers . . . submit a trip ticket for each trip/transaction” which must be received by the department by the tenth day of the following month.²⁷⁵ Trip tickets are administered by SCDNR upon a person or entity receiving a wholesale license.²⁷⁶ Trip tickets are required to be complete and accurate and require that specific fields on the form be filled in.²⁷⁷ Mandatory fields include: dealer name and number, fisherman name and ID or customer number, crew, trip start and unloading date, area of catch or harvesting, vessel and gear information, species, volume, unit price and total catch.²⁷⁸

Wholesale seafood dealer, peeler crab, and molluscan shellfish licenses, shall have their wholesale seafood dealer license suspended for twelve

271. S.C. CODE ANN. § 50-5-365(F) (2008); S.C. CODE ANN. § 50-5-370(C) (2008).

272. S.C. CODE ANN. § 50-5-375(A) (Supp. 2014).

273. See 10 S.C. CODE ANN. REGS. 123-20 to 123-35 (2011) (not finding any reference to “the information required by the department”).

274. Telephone Interview with Angel C. Brown, Commercial License/ Permit Supervisor, DNR Office of Fisheries Management (Nov. 2, 2015).

275. *Summary of Wholesale and Bait Dealer Laws 2015-2016*, S.C. DEP’T OF NATURAL RESOURCES MARINE RES. DIV. 5, <http://www.dnr.sc.gov/licenses/commercialpricing.html> (last visited Nov. 6, 2015) [hereinafter SC Wholesale & Bait Dealer Laws 2015-16].

276. See *id.* Note, not being a licensed wholesale seafood dealer, in order to obtain the trip tickets I had to reach out to SCDNR and request copies be sent to me.

277. SC Wholesale & Bait Dealer Laws 2015-16, *supra* note 275.

278. See generally SCDNR, FISHERIES STATISTICS SECTION, S.C. Trawl/Channel Net Tickets (revised Sept. 2014) (on file with SCDNR); SCDNR, FISHERIES STATISTICS SECTION, S.C. Offshore Finfish Tickets (revised April 2015) (on file with SCDNR); SCDNR, FISHERIES STATISTICS SECTION, S.C. Crab Pot Tickets (revised April 2015) (on file with SCDNR); SCDNR, FISHERIES STATISTICS SECTION, S.C. Inshore/Nearshore Finfish Tickets (revised April 2015) (on file with SCDNR); SCDNR, FISHERIES STATISTICS SECTION, Clam/Mussel Shellstock Receiving/Trip Ticket Log (revised Sept. 2014) (on file with SCDNR); SCDNR, FISHERIES STATISTICS SECTION, Oyster/Whelk Shellstock Receiving/Trip Ticket Log (revised Sept. 2014) (on file with SCDNR); SCDNR, FISHERIES STATISTICS SECTION, S.C. Multi-day Crab Ticket (revised April 2015) (on file with SCDNR); SCDNR, FISHERIES STATISTICS SECTION, S.C. Multi-day Shad Trip Tickets (revised Aug. 2011) (on file with SCDNR) (gray fields on all forms are mandatory for completion) [hereinafter SCDNR TRIP TICKETS].

months, upon a fourth conviction in a three year period, for violating provisions related to improper marking or tagging of fishery products, failure to report or maintain records, and/or unlawful purchase of fishery products.²⁷⁹ Furthermore, failure or refusal to comply with or interfere with any search and seizure effort is deemed a misdemeanor and upon conviction, a fine between \$500–\$2500 or imprisonment for not more than thirty days, will be administered.²⁸⁰

E. Aquaculture

SCDNR is also granted authority to inspect aquaculture facilities and grant permits and licenses.²⁸¹ Aquaculture is defined as the “controlled cultivation of an aquatic species in confinement.”²⁸² Generally, when an aquaculture product is exchanged for commercial purposes, “an invoice or receipt is required showing the date, producer, origin, destination, permit, registration, and license numbers as appropriate, species name, product, and quantity exchanged.”²⁸³ When an aquacultured product is shipped, the shipper is subject to SCDNR inspection and a bill of lading must be in the possession of the shipper while in transit showing the “date, producer, origin, shipper, destination, permit, registration, and license numbers as appropriate, species name, product, and quantity shipped.”²⁸⁴ All those involved in aquaculture commerce must maintain all invoices, receipts, and bills of lading for three years. Violating these provisions is a misdemeanor with a fine of \$100–\$1000 or imprisonment for up to thirty days with the permit, registration, or license suspended until SCDNR receives accurate reports.²⁸⁵

F. Proposed South Carolina Bills

In South Carolina, Bill 3987²⁸⁶ was proposed in 2013 to amend SCFCA §39-25-20. The amendment would redefine the terms “food,” “seafood,” and “local” “so as to provide that a retail or wholesale establishment is prohibited from selling seafood while knowingly and willfully

279. See S.C. CODE ANN. § 50-5-360(H)(1) (2008).

280. S.C. CODE ANN. § 50-5-90(B) (2008).

281. See S.C. CODE ANN. § 50-18-215 (2008); S.C. CODE ANN. § 50-18-250 (2008).

282. S.C. CODE ANN. § 50-18-210(1) (2008).

283. S.C. CODE ANN. § 50-18-265(A) (2008).

284. See S.C. CODE ANN. § 50-18-265(C) (2008).

285. S.C. CODE ANN. § 50-18-265(G) (2008).

286. H. 3987, 2013-14 Gen. Assemb., 120th Sess. (S.C. 2013).

misrepresenting the identity of the seafood to its patrons” to prevent seafood from knowingly being misrepresented.²⁸⁷ Similar to the federal bills, no further action was taken.²⁸⁸

Thus, it appears several lawmakers on the federal and state level were aware of the need to combat seafood fraud, though they were met with much resistance from the majority on passing legislation. However, with growing consumer demand, legislators may be forced to get behind future bills combatting seafood fraud.

VIII. MASSACHUSETTS’ LAWS AND REGULATIONS ON SEAFOOD FRAUD

According to the National Oceanic and Atmospheric Administration (NOAA), in 2013, of all major commercial fishery ports in the United States, New Bedford, MA, had the highest value (in dollars) of fishery landings, bringing in \$379 million.²⁸⁹ Thus, the high economic value of Massachusetts’ commercial fishing industry within has led the state to proactively combat seafood fraud on multiple fronts.²⁹⁰ Furthermore, comparing of Massachusetts with South Carolina can illustrate gaps in combatting seafood fraud on the state level, as well as serve as an example for South Carolina in the areas that Massachusetts has excelled in combatting seafood fraud.

Like South Carolina, several Massachusetts agencies share jurisdiction in regulating the sale of seafood. The Department of Fish and Game (MDFG) Division of Marine Fisheries, like SCDNR, inspects for compliance with fishery regulations and issues commercial fishing permits and seafood dealer permits.²⁹¹ The Massachusetts Department of Public Health (MDPH) serves a similar role as SCDA and DHEC and issues

287. *Id.* at 19–23.

288. *See id.*; H.R. 1012, 113th Cong. (2013); S. 520, 113th Cong. (2013).

289. NOAA also ranked Gloucester, MA, as the twenty-fifth top port. *2013 Commercial Fishery Landings by Port Ranked by Dollars*, NOAA, <https://www.st.nmfs.noaa.gov/commercial-fisheries/commercial-landings/other-specialized-programs/total-commercial-fishery-landings-at-major-u-s-ports-summarized-by-year-and-ranked-by-dollar-value/index> (last visited Nov. 7, 2015).

290. *See generally* U.S. v. Delaney, 795 F. Supp. 2d 125 (D. Mass. 2011) (finding defendant in Massachusetts guilty of felony false identification of fish under the Lacey Act); *Fish Mislabeling Important Facts for Health Inspectors and Retail Food Establishments*, BUREAU OF ENVTL. HEALTH FOOD PROT. PROGRAM MASS. DEP’T OF PUB. HEALTH (2012), <http://www.mass.gov/eohhs/docs/dph/environmental/foodsafety/retail/fish-mislabeling-retail.pdf> [hereinafter Mass. Brochure].

291. 322 MASS. CODE REGS. 1–16.

licenses for food processing and distribution at the wholesale level.²⁹² Furthermore, MDPH inspects for compliance with regulations for food manufacturing and the sanitary handling, processing, and distribution of seafood products.²⁹³ Additionally, like DHEC, Massachusetts's local boards of health are charged with issuing licenses for restaurants and retail food stores, as well as, inspecting for compliance with regulations governing them.²⁹⁴

Similar to South Carolina, Massachusetts requires food to be labeled with the product name required under state law or regulation, or, in the absence thereof, the "common or usual name of the food."²⁹⁵ However, Massachusetts does a better job deliberately promulgating a list specifying a common name for which a species, under its scientific name, can be labeled as.²⁹⁶ However, the promulgated listings, in both Massachusetts and South Carolina, are under-inclusive with few species included on the list and over-inclusive with a large number of species labeled under the same common name. For instance, in Massachusetts, both Atlantic halibut (*Hippoglossus hippoglossus*) and Pacific halibut (*Hippoglossus stenolepis*) may be labeled as "halibut."²⁹⁷ Thus, by not requiring labels to distinguish between Atlantic and Pacific populations, consumers have no way of knowing if they are consuming the overfished Atlantic halibut or the healthier Pacific halibut population.²⁹⁸ Likewise, the FDA's Seafood List, like Massachusetts and South Carolina, does not require disclosing the geographic region on the label,²⁹⁹ evidencing a blatant omission in labeling requirements that hinders conservation efforts.

However, Massachusetts has been progressive on another front. MDPH has assembled a brochure with important facts of fish mislabeling for health inspectors and retail food establishments.³⁰⁰ The brochure defines fish mislabeling, the health concerns that accompany mislabeling, the importance of combatting mislabeling, state and federal agencies involved in seafood regulation, a synopsis of steps Massachusetts has taken to combat

292. See generally 105 MASS. CODE REGS. 533 (requiring that provisions for fish and fishery products manufacturing comply with 21 C.F.R. pt. 110 (2015) and the state's general Products Good Manufacturing Practices, 105 MASS. CODE REGS. 500).

293. See *id.*

294. See 105 MASS. CODE REGS. 590.

295. 105 MASS. CODE REGS. 520.103.

296. See 105 MASS. CODE REGS. 520.347, 350, 357 (including acceptable common names for Bonito, crabmeat and Greenland Turbot).

297. See 105 MASS. CODE REGS. § 520.357.

298. See Friedman, *supra* note 1.

299. See 21 CFR § 102.57 (2015).

300. See Mass. Brochure, *supra* note 290.

mislabeling, as well as a synopsis of the Lacey Act.³⁰¹ The brochure serves as an educational tool to further increase inspection as well as a deterrent by informing potential mislabeler's of the laws and agencies acting to punish fraudulent activities. Following Massachusetts proactive educational approach, in South Carolina, DHEC could make available online and disseminate a similar handout to inspectors, retail food establishments, and provide a copy with issued licenses and permits for commercial fishing, wholesale seafood dealing, and aquaculture.

Furthermore, in comparison to South Carolina, Massachusetts' laws and regulations for governing seafood fraud were easily accessible and clearly written.³⁰² Conversely, South Carolina's laws and regulations were vague and often redundant with several regulations lacking information directly referenced in the legislation.³⁰³ This makes it difficult for those trying to abide by the law to locate and understand the laws and regulations that govern them. Perhaps realizing the lack of clarity, SCDNR intends to overhaul The Marine Resources Act of 2000³⁰⁴ in the near future.³⁰⁵

IX. PROPOSED CHANGES TO COMBAT SEAFOOD FRAUD ON THE FEDERAL AND STATE LEVEL

Attempts to address seafood fraud on the state level have proven largely ineffective.³⁰⁶ Although seafood fraud is an international issue, states know best how to serve the needs of their citizens and must play a larger role in combatting fraud. The following suggestions could be implemented in whole or in part in South Carolina. However, note, seafood fraud is best combatted if uniform international standards are implemented and enforced.

301. *See id.*

302. South Carolina State agency rules and instructions were scattered across various agency websites, whereas the majority of material regarding Massachusetts agencies was clearly written and available on Next.Westlaw.com.

303. *Compare* S.C. CODE ANN. § 50-5-375(A) (Supp. 2014), *with* 10 S.C. CODE ANN. REGS. 123-20 to 123-35 (2011) (not finding any reference to "the information required by the department").

304. South Carolina Marine Resources Act of 2000, S.C. CODE ANN. §§ 50-5-10 to -2740 (2008 & Supp. 2014).

305. Telephone Interview with Angel C. Brown, *supra* note 274.

306. Stephen Wagner, *When Tuna Still Isn't Tuna: Federal Food Safety Regulation Regime Continues to Inadequately Address Seafood Fraud*, 20 OCEAN & COASTAL L.J. 111, n. 79 (2015) (citing Jean Abelson & Beth Daley, *On the Menu But Not On Your Plate: A Globe Investigation Found Fish Bought at Restaurants Across the Regions Was Mishandled About Half the Time. Sometimes It Was Innocent Error, But Often It Was Deliberate, Driven By Profits*, BOS. GLOBE (Oct. 23, 2011), <http://bostonglobe.com/2011/10/22/dnat/est/NDbXGXdPR6037mXRSVPGIL/story.html>).

A. Improving Traceability

To more effectively combat seafood fraud, the first step that should be taken is to mandate increased tracking documentation at each level of the supply chain. To do so, steps could be taken to phase in uniform mandatory traceability regulations for both domestic and imported seafood in the United States. As an alternative, if importers of seafood wish not to participate in the new traceability regulations, an additional tariff could be placed on imported seafood including a label identifying the seafood as not having undergone the new traceability protocol. Furthermore, if a mandatory program is found to be too costly, tax incentives could be given to those that do participate in the traceability program, as well as, a USDA approved traceability label. Moreover, under the current tax system, tax breaks could be given to those that participate in NOAA's voluntary fee-for-service inspection program. However, note, before being adopted these proposed labeling and certification scheme changes would be subject to international trade rules and the World Trade Organization and must comply with the General Agreement on Tariffs and Trade and the Technical Barriers to Trade Agreements.³⁰⁷

To best implement uniform traceability standards, first, commercial fishing vessel harvesters should use a uniform logbook that includes information such as: vessel name, catch location, date, species (including the approved FDA market name, scientific name, and the geographic region of the species e.g. Atlantic or Pacific), total weight, and method of harvest event.³⁰⁸ Second, for farming operations, a similar uniform electronic logbook should be created recording the environment the fish were raised in (including the cage or pond number), species name (including the approved FDA market name, scientific name, and the geographic orientation of the species), date of harvest, weight of harvest,³⁰⁹ and any chemicals used in the cultivation process. The creation of electronic logbooks with a uniform template would allow for information to be logged in a database and disseminated quickly allowing for real-time monitoring.

Upon landing and harvesting, the logbooks should be uploaded to a database with a uniform barcoding or tagging system, which would designate an individualized barcode/tag that would remain affixed to the seafood shipping container throughout the supply chain until reaching the

307. See J.B. RUHL ET AL., *THE PRACTICE AND POLICY OF ENVIRONMENTAL LAW* 486 (3rd ed. 2014).

308. See, e.g., Boyle, *supra* note 153, at 36 (proposing next steps for traceability in the seafood supply chain).

309. See, e.g., *id.* (proposing next steps for traceability in the seafood supply chain).

final consumer. Once at a processing facility or final retailer, staff at the facility should be trained in appropriate handling, shipping, and receiving practices.³¹⁰ Processors should follow all labeling laws and regulations, including FALCPA, to prevent cross-contamination and ensure food is properly labeled for allergens. Moreover, handling practices and harvest information should be made more available for restaurant or market purchases. This could be done through information cards on any live tanks or meat displays, as well as, more specific names incorporated on menus.

Throughout the supply chain, the appropriate government agencies should increase the frequency and scope of inspections. Furthermore, the agencies should do periodic audits to ensure proper documentation and protocol is being followed at the facility.³¹¹ The majority of the audits should target species such as red snapper, Mahi Mahi, and swordfish, which are frequently substituted. Furthermore, government agencies should set in place a mandatory review period every several years in which the agencies would collaborate on a joint review of traceability efforts and any shortcomings.³¹²

B. Standardized Labeling with Scientific and Market Names

Taking into consideration arguments made by the seafood industry and conservation groups, discussed in Part IV (c), an efficient way to serve consumer and industry interests would be to create a standard uniform labeling system that includes both the seafood's scientific and FDA approved market name, as well as the geographic region of the species and the production method (wild-caught or farm-raised).³¹³ While an international or even national uniform labeling standard would best combat fraud and protect consumer interests, until such standards are implemented, South Carolina could promulgate statewide uniform seafood labels.

SCDNR, SCDA, and DHEC could collaborate on a list of scientific and market names of species for a proposal to be added to SCMRA for use on harvesting logs. This list could also be adopted by the Commissioner of SCDA for use as the standard identity of the species on seafood labels. The list should include the top landed, farmed, and adulterated fish species in South Carolina. By having the scientific and market name specified by an applicable law or regulation, pursuant to S.C. Code Ann. Regs. 5-301, this statement of identity must be included on a product label in South Carolina.

310. See, e.g., *id.* (proposing next steps for traceability in the seafood supply chain).

311. See, e.g., *id.* (proposing next steps for traceability in the seafood supply chain).

312. See, e.g., H.R. 1012, 113th Cong. (2013); S. 520, 113th Cong. (2013) (suggesting a report be given to Congress every two years evaluating antifraud measures).

313. See Jacquet & Pauly, *supra* note 23, at 310.

However, in the absence thereof, the common name of the species or the market name promulgated by the FDA would be used. Use of only the FDA approved market name would mean that there remains an overlap of species under the same umbrella of a single market name.³¹⁴

Presumably, the geographic region of the species would not be burdensome to include on South Carolina landed harvests. The operator of a commercial fishing vessel is already responsible for determining the location of his vessel “in order that he not violate any closed or restricted area,”³¹⁵ as well, South Carolina trip tickets require recording the area of a catch.³¹⁶ Thus, since this information is already collected and given to wholesalers on the trip ticket, it is presumable that the general location of the catch could be included on the seafood label.

C. Increased Penalties in South Carolina

On both the state and federal level, penalties for seafood fraud and mislabeling need to be raised. Some fines for the illegal fishing and mislabeling of endangered species have been less than 1% of the gross profit of the illegal sale.³¹⁷ In order for penalties to act as a deterrent to committing seafood fraud, the penalties must outweigh the benefits. However, under the current system, penalties are not set high enough to act as a deterrent.³¹⁸

Specifically, in South Carolina, the penalties are not high enough to deter the adulterating, misbranding, short-weighting, and over-treating of seafood.³¹⁹ To counteract this, South Carolina could increase monetary fines and sentencing times for first time offenders with harsher punishments for subsequent offenses. Regarding the suspension of wholesale seafood dealer licenses, it is too lenient to wait to suspend a license until the fourth conviction in a three-year period for improperly marking seafood products and/or failure to report or maintain records. Either, the timeframe of three-years should be shortened, the number of convictions before suspension should be lowered, or the length of the ultimate suspension period should be increased.

314. See *supra* Part IV(c).

315. S.C. CODE ANN. § 50-5-115 (2008).

316. See SCDNR TRIP TICKETS, *supra* note 278.

317. Jacquet & Pauly, *supra* note 23, at 316 (reporting on two poachers indicted for illegally harvesting and selling one subspecies of caviar under a more profitable subspecies name).

318. See *generally id.* (finding fines for illegal catching and mislabeling to be too low).

319. See *supra* Part VII.

However, if the risk of being caught is minimal, increased fines and sentencing alone will not effectively deter fraudulent activities. Therefore, in addition to increasing penalties and sentencing times, more funding and manpower needs to be designated to actively monitor seafood landed, farmed, or imported to South Carolina in interstate commerce. To come up with the funds necessary to support the increased monitoring, South Carolina could apply the monetary difference of the increased penalties to finance the monitoring. As well, subsequent offenses could include a penalty of mandatory community service to be served in some capacity that would free up funds for SCDA, SCDNR, and DHEC. Or, if unable to participate in community service due to being an out of area fisherman, the state could subject these violators to a one-time penalty that would serve as their community service effort. This could potentially free up more manpower to increase seafood inspections. As well, if further funds are needed, a consumer tax could be imposed on seafood.

In the face of already limited state and federal funds, South Carolina must make efficient use of any additional funds set aside to combat seafood fraud. To do so, there needs to be increased collaboration between SCDA, SCDNR, and DHEC to minimize duplicative work and any enforcement gaps among and between agencies.

D. Information Production & Dissemination in South Carolina

Pursuant to S.C. Code Ann. § 39-25-200, SCFDCA could disseminate annual reports publicizing the names of individuals or entities that adulterated and/or misbranded seafood. Experts have found persuasion, through the process of collecting and disseminating information, has led to significant changes in the behavior of regulated parties.³²⁰ Publicization of offenders, coupled with the food transparency movement, could prove to be an effective deterrent of seafood fraud.³²¹

E. Law Enforcement Education

Since SCMRA has made it the “duty of all sheriffs, deputy sheriffs, constables, rural policemen and special officers to actively cooperate with

320. James Salzman, *Teaching Policy Instrument Choice in Environmental Law: The Five P's*, 23 DUKE ENVTL. L. & POL'Y F. 363, 373 (Spring 2013).

321. It should be noted that the same persuasion tool cannot be used under the SCMRA, S.C. CODE ANN. §§ 50-5-10 to -2740 (2008 & Supp. 2014), pursuant to S.C. CODE ANN. § 50-5-380(A) (2008), which requires the confidentiality of any individual or entity receiving a license or permit under SCMRA.

the department [SCDNR] in the enforcement of the game and fish laws of the State,”³²² South Carolina could implement more training for peace officers, especially in coastal cities, to better combat seafood fraud. SCDNR could educate peace officers through brochures or presentations on identifying fish species and informing these peace officers of the necessary documentation of seafood products throughout the supply chain.

F. Universal Uniform Moisture Guidelines & CO/TS Testing

Uniform moisture guidelines and increased testing is needed to combat the over treatment of seafood which leads to customers paying higher prices for less meat. Since most seafood is imported and can undergo processing on a vessel, it is important that a universal standard be set for moisture guidelines. Furthermore, the FDA needs to make an official determination of whether carbon monoxide/tasteless smoke (CO/TS) is generally recognized as safe (GRAS) for consumer safety.

G. Increased Effort to Enforce the Lacey Act

In sentencing the North Carolina-based seafood processor and wholesale distributor Alphin Brothers, Inc.,³²³ widespread fraud along the United States southeastern coast was made public. South Carolina should be concerned with offenders like Alphin Brothers, Inc. It’s very likely that the actions of Alphin Brothers, Inc., negatively impacted South Carolina’s seafood industry through illegitimate practices and loss of consumer confidence in the state’s industry. However, it is encouraging that authorities were able to detect seafood fraud and sentence Alphin Brothers Inc., under the Lacey Act. Moreover, North Carolina being a neighboring state, also in the Fourth Circuit, should encourage South Carolina to seek out and prosecute violators under the Lacey Act.

X. CONCLUSION

As seafood importation continues to grow, consumers remain vulnerable to seafood fraud. Under the current regime, consumers cannot assume seafood is adequately regulated to ensure accurate pricing, labeling, and species identification. An analysis of federal and state laws currently governing seafood fraud reveals there is a need for new laws and

322. S.C. CODE ANN. § 50-1-80 (2008).

323. U.S. Dept. of Justice, Press Release No. 15-1003, *supra* note 214.

regulations, as well as, expanded agency coordination to enforce current laws on an international, national, and state level. Furthermore, there is a need for expanded uniform traceability standards and a uniform seafood labeling system including both the scientific and FDA approved market name, the production method (wild-caught or farmed), and the geographic origin of the seafood. Such a uniform label allows consumer familiarity with established market names, while allowing for more informed consumer buying power by including the universal scientific name. As the consumer food transparency movement continues to grow, laws and regulations on the state and federal level may see a much-needed overhaul in the near future to combat seafood fraud.